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ERTS DATA USER TYPE-1 PROGRESS REPORT FOR
SEPTEMBER/OCTOBER 1973

Project Title/Objective: Relevance to ERTS to the State of Ohio

Proposal Number: MMC No. 87

Contract Number: NAS5-21782

BCL Subcontract Number: 72-17/G-1793

Principal Investigator: Dr. David C. Sweet

I. DATA COLLECTION

ERTS-1 data received from NASA during this reporting period are summarized in Table 1. In addition to the imagery described in the Table, computer compatible tape data have also been received for most of these same scenes. Figure 1 illustrates the present status of usable repetitive ERTS imagery of the various portions of Ohio. Some of the multispectral color composites that have been requested for most of the usable ERTS scenes of Ohio have also been received.

Ohio ERTS study site data collection activities during this reporting period included aircraft photography (1:24,000 scale) of the Wooster and East Liberty study sites which was flown on October 25, 1973 using the Ohio Highway Department aircraft.

II. DATA ANALYSIS

No major analytical data analysis were completed during this reporting period. However, program activities focused on the preparation of a demonstration product describing the usefulness of ERTS data to land use activities in Ohio. This working paper is nearing completion and will be included in the next progress report. The purpose of this working paper is to prepare a demonstration product documenting ERTS user applications and is identified for distribution to State officials and planners, initially for

Original photography may be purchased from
EROS Data Center
10th and Dakota Avenue
Sioux Falls, SD 57198

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(E74-10024) RELEVANCE OF ERTS TO THE
STATE OF OHIO Progress Report, Sep. -
Oct. 1973 (State of Ohio Dept. of
Development, Columbus.) 8 p HC \$3.00

TABLE 1. COVERAGE AND QUALITY OF ERTS-1 DATA OVER OHIO
RECEIVED DURING THIS REPORTING PERIOD

Date	Time		Quality Comments*
<u>TRACE 1</u>			
8/16/73	15351	NE Ohio and Western Lake Erie	Fair
8/16/73	15354	Eastern Ohio and Western Pa.	Poor
9/13/73	15350	NE Ohio and Western Lake Erie	Excellent
9/13/73	15352	Eastern Ohio and Western Pa.	Excellent
9/13/73	15355	SE Ohio and West Virginia	Excellent
9/13/73	15361	SE Ohio, West Virginia, & Ky.	Excellent
<u>TRACE 2</u>			
7/12/73	15415	Columbus and Eastern Ohio	Fair
7/12/73	15422	SE Ohio	Excellent
7/12/73	15424	SE Ohio and Kentucky	Excellent
8/17/73	15410	NE Ohio, Lake Erie, and Canada	Fair
8/17/73	15412	Columbus and Eastern Ohio	Fair
8/17/73	15415	SE Ohio	Poor
9/4/73	15404	NE Ohio, Lake Erie, and Canada	Excellent
9/4/73	15410	Columbus and Eastern Ohio	Excellent
9/4/73	15413	SE Ohio	Excellent
9/4/73	15415	SE Ohio and Kentucky	Excellent
<u>TRACE 3</u>			
7/13/73	15471	NW Ohio and Lake Erie	Excellent
7/13/73	15474	Columbus and Western Ohio	Excellent
7/13/73	15480	SW Ohio, Indiana and Kentucky	Excellent
8/18/73	15464	NW Ohio and Lake Erie	Good
8/18/73	15471	Columbus and Western Ohio	Good
8/18/73	15473	SW Ohio, Indiana and Kentucky	Fair

* Quality relates to general cloud cover condition over area covered by satellite photography.

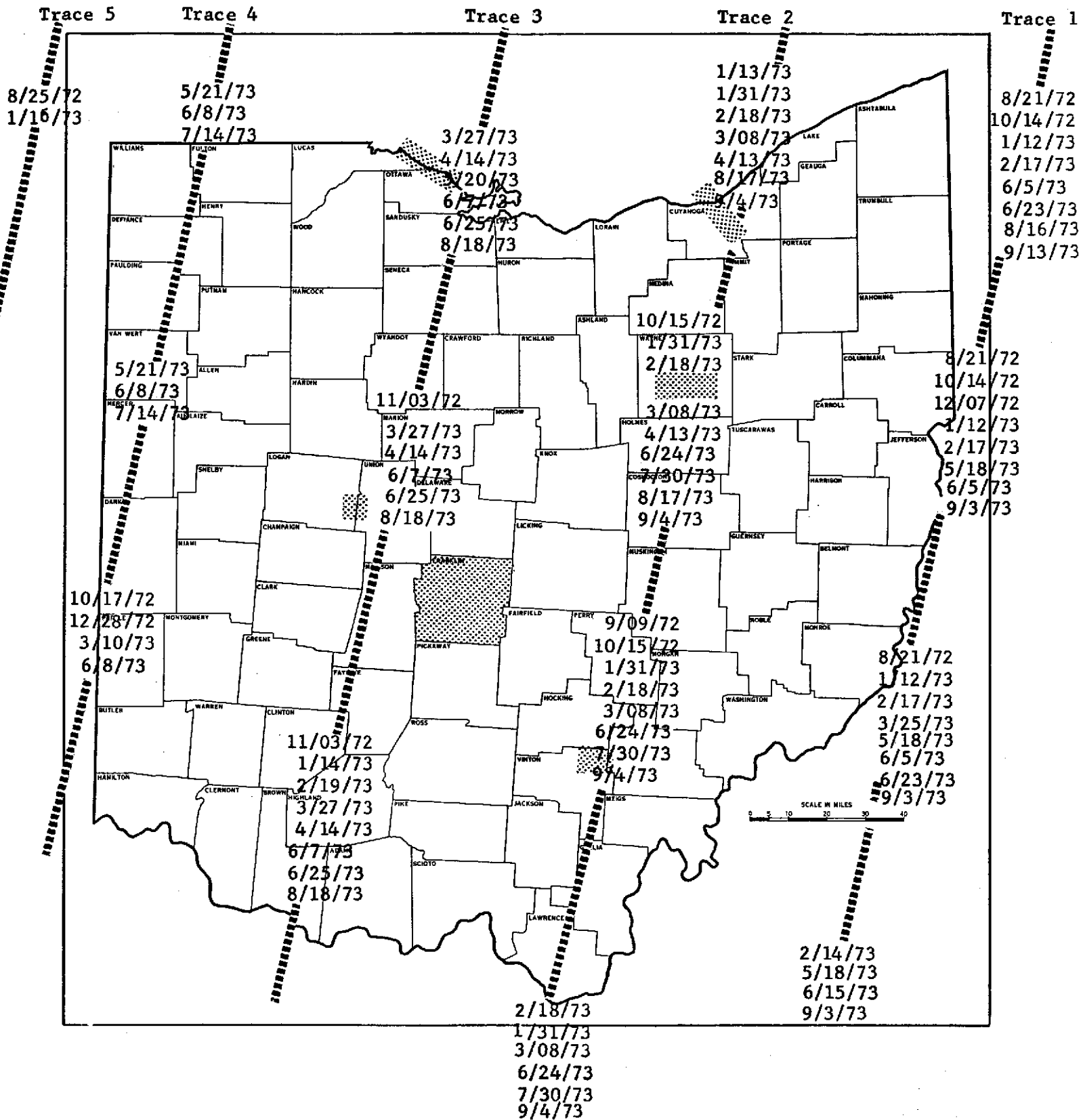


Fig. 1. Status of Usable Repetitive ERTS Imagery for Ohio

information purposes but ultimately for their evaluation of planning and legislative relevance and potential cost-saving benefits.

Another analytical task undertaken during this reporting period was the production of computer printout demonstration products from the computer compatible ERTS tapes. Figure 2a shows a portion of the Franklin County/Columbus, Ohio test site as seen by ERTS-1 on November 3, 1972 and an eight digit computer printout of the same area is shown in Figure 2b.

High quality ERTS-1 imagery of southeastern Ohio areas in which surface mining is prevalent was received at the end of this reporting period and a one-year comparison study of these areas to determine the extent which mining has occurred and to demonstrate the benefits of repetitive satellite imagery is planned to be undertaken soon.

III. DCS/DCP EFFORT

As stated in the last progress report of July/August, use of the Ohio-ERTS DCP has been discontinued. Plans are being made to prepare an ERTS Utility Demonstration Product describing and summarizing the results of this experiment for the use of state personnel in evaluating the potential-operational utility of the DCS.

IV. DATA UTILITY ASSESSMENT

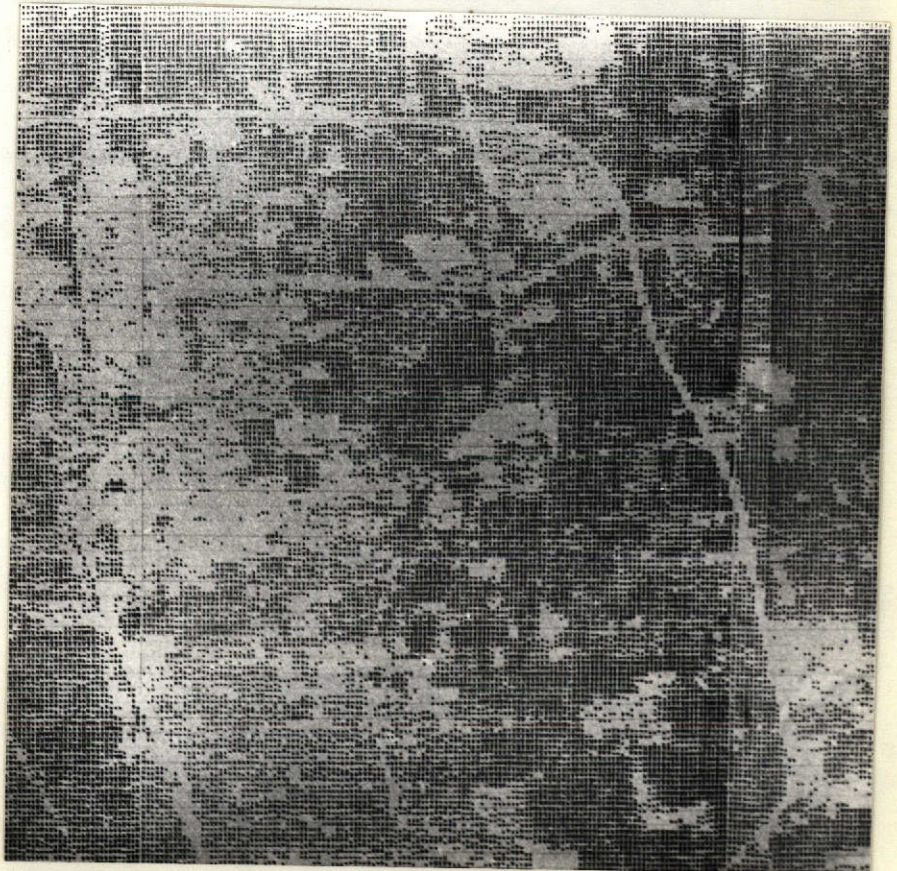
During this reporting period continuing attention was given to testing the usefulness of ERTS imagery to individual programs and interests within various agencies. In total over fifty people visited the Remote Sensing Application Laboratory during September and October where Battelle and State personnel jointly analyzed ERTS data in regard to a variety of State data needs.

Plans are currently being formulated to conduct a two-day workshop in early 1974 to acquaint, familiarize, and update personnel from all departments and at all levels within the State government with the Ohio-ERTS program

Fig. 2a. An enlarged portion of an ERTS-1 MSS Band 5 (6,000-7,000 Å) photograph of 3 November 72 showing a portion of Franklin County/ Columbus, Ohio test site.



Fig. 2b. An eight digit computer printout demonstration product derived from the ERTS-1 MSS Band 5 computer compatible tape of 3 November 72 which is of the same portion of the Franklin County/ Columbus, Ohio test site shown in Figure 2a.



results to date. Anticipated results from this workshop include an assessment of the relevance of ERTS data to Ohio's management, legislative and planning activities and recommendations for future orbital survey data collection programs.

V. SIGNIFICANT RESULTS

There were no significant program results this reporting period.

VI. MISCELLANEOUS

On October 30, 1973, Paul Pincura and Terry Wells of the Ohio Department of Economic and Community Development and Joachim Stephan of Battelle Columbus Laboratories presented a forty-five minute review of the Ohio ERTS Program to a NASA Earth Resources Discipline Panel at Goddard Space Flight Center. As a result of the NASA discipline panel reviews, a summary of the Ohio-ERTS program will be presented at the Third ERTS-1 Principle Investigator's Symposium sponsored by Goddard Space Flight Center which is scheduled to be held during the week of December 10 to December 13, 1973 in Washington, D. C.

Also on October 30, 1973, Mr. Clem Meier of the Ohio Department of Natural Resources presented a paper titled "Application of Remote Sensing to Resource Management at the State Level" at the symposium on Management and Utilization of Remote Sensing Data at Sioux Falls, South Dakota. This paper summarized and pictorially displayed the usefulness of orbital survey data to contemporary resource management problems faced by various departments and agencies of the State government in Ohio. A copy of this paper was attached to July/August progress report.

The State of Ohio has currently completed a color mosaic (scale 1:250,000) of the entire state of Ohio from 40 x 40 ERTS color composites and

several black and white mosaics (see Figure 3) from ERTS imagery for planning and management activities. The mosaics have been placed in many departments of the State and are being utilized for planning and management activities.

At the request of the Cooperative Extension Service of the Ohio State University, Ohio-ERTS project staff members discussed land use applications of ERTS data and the Ohio orbital survey programs at the Cooperation Extension Services Land Use Planning Workshop on September 12, 1973 at the Ohio State University. Later that day at Battelle's Remote Sensing Application Laboratory land use applications of ERTS data were demonstrated to more than thirty of the extension agents who were participating in the two-day workshop.

A public awareness demonstration product (shown in Figure 4) featuring the Ohio orbital survey program was assembled and displayed at the Farm Science Review held at the Ohio State University on September 18-20.

During this reporting period, Battelle staff members have continued to assist members of the Ohio Biological Survey in their Scioto River Valley land use study. Work also continued on a joint Ohio State University, Ohio Environmental Protection Agency and Battelle Memorial Institute Lake Erie study proposal to be presented to the Federal Environmental Protection Agency.

Plans are now being formulated for a state-wide radio/TV, newspaper and magazine press conference featuring the Ohio orbital survey programs which probably will be held in December.

Fig. 3. ERTS-1 MSS Band 5
Photo Mosaic of
the State of Ohio



Fig. 4. Ohio Orbital Survey Display at the Farm Science Review